

## **AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

## **LISTING OF CLAIMS:**

1.-59. (Cancelled)

60. (Currently Amended) A dendritic polymer of generation n composed of:

- a central core § of valence m;
- optionally, generation chains branching around the core;
- an intermediate chain at the end of each bond around the core or at the end of each generation chain, where appropriate; and
- a terminal group at the end of each intermediate chain,

wherein m represents an integer from 3 to 8; n represents an integer from 0 to 12, wherein the generation chains are represented by the formula:

-A''-N< (C1'')

### wherein

A' represents an alkyl radical, an alkenyl radical or a alkynyl radical, each of which is optionally substituted by one or more substituents selected from -Alkyl, -Hal, -NO<sub>2</sub>, -NRR', -CN, -CF<sub>3</sub>, -OH, -OAlkyl, -Aryl, and -Aralkyl; and wherein R and R', which are identical or different, each independently of the other represents a hydrogen atom or an -alkyl radical, an -aryl radical, or an -aralkyl radical, the intermediate chains, which are identical or different, are represented by formula

-J-K-L- (C2) or -L"- - (C2')

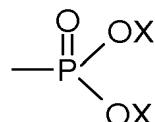
wherein

J represents an oxygen atom, a sulfur atom or a radical -NR-;

K represents an aryl, heteroaryl or alkyl radical, each of which is optionally substituted by a halogen atom or by -NO<sub>2</sub>, -NRR', -CN, -CF<sub>3</sub>, -OH, an -alkyl radical, an -aryl radical, or an -aralkyl radical;

L represents a hydrocarbon chain having from 1 to 6 chain members and optionally having one or more heteroatoms and/or optionally having one or more double or triple bonds, each of said chain members being optionally substituted by one or more substituents selected from -OH, -NRR', and -Oalkyl; and R and R', which are identical or different, each independently of the other represents a hydrogen atom or an -alkyl, -aryl, or -aralkyl radical; and

L" represents an -alkyl- chain having from 1 to 6 chain members, optionally substituted by one or more substituents selected from -OH, -NRR', and -Oalkyl, where R and R', which may be identical or different, each independently represent a hydrogen atom, an alkyl radical, an aryl radical or an -aralkyl radical; and ~~further wherein~~ the terminal group consists of the group of formula:



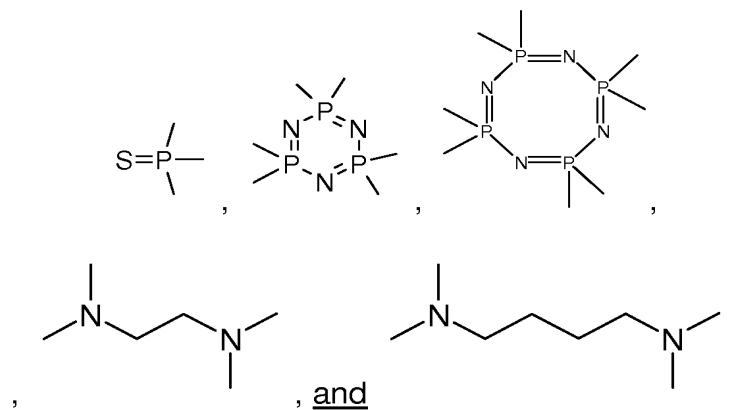
wherein each of the radicals X is a methyl group,

with the exception of the compound of formula:



61. (Previously Presented) A dendritic polymer according to claim 60, wherein the central core contains at least one phosphorus atom.

62. (Currently Amended) A dendritic polymer according to claim 60, wherein the central core is selected from the following groups:



63. (Previously Presented) A dendritic polymer according to claim 60, wherein the central core has the formula:



64. (Previously Presented) A dendritic polymer according to claim 60, having a DAB-AM, PAMAM, or PMMH structure.

65. (Cancelled)

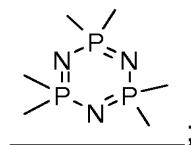
66. (Previously Presented) A dendritic polymer according to claim 77, wherein M is selected from sodium and potassium atoms.

67. (Previously Presented) A dendritic polymer according to claim 77, wherein n is from 0 to 3.

68-76. (Cancelled)

77. (Currently Amended) A dendritic polymer of generation n comprising:

(a) a central core  $\S$  of valence  $m$  having the formula:

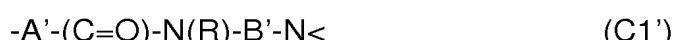


(b) generation chains branching around the core;

(c) an intermediate chain at the end of each bond around the core or at the end of each generation chain, where appropriate; and

(d) a terminal group at the end of each intermediate chain.

wherein m represents an integer from 3 to 8; n represents an integer from 0 to 12, the generation chains are represented by the formula:



wherein

A' and B', each independently of the other, represent an alkyl radical, an alkenyl radical or an alkynyl radical, each of which is optionally substituted by one or more substituents selected from -alkyl, halogen atoms, -NO<sub>2</sub>, -NRR', -CN, -CF<sub>3</sub>, -OH, -OAlkyl, -aryl, and -aralkyl; and

R and R', which may be identical or different, each independently represent a hydrogen atom, an alkyl radical, an aryl radical or an aralkyl radical; the intermediate chains, which are identical or different, are represented by formula



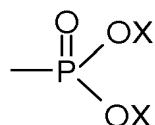
wherein

J represents an oxygen atom, a sulfur atom or a radical -NR-;

K represents an aryl, heteroaryl or alkyl radical, each of which is optionally substituted by a halogen atom or by -NO<sub>2</sub>, -NRR', -CN, -CF<sub>3</sub>, -OH, an -alkyl radical, an -aryl radical, or an -aralkyl radical;

L represents a hydrocarbon chain having from 1 to 6 chain members and optionally having one or more heteroatoms and/or optionally having one or more double or triple bonds, each of said chain members being optionally substituted by one or more substituents selected from -OH, -NRR', and -Oalkyl; and R and R', which are identical or different, each independently of the other represents a hydrogen atom or an -alkyl, -aryl, or -aralkyl radical; and

L" represents an -alkyl- chain having from 1 to 6 chain members, optionally substituted by one or more substituents selected from -OH, -NRR', and -Oalkyl, where R and R', which may be identical or different, each independently represent a hydrogen atom, an alkyl radical, an aryl radical or an -aralkyl radical; and further wherein the terminal group consists of the group of formula:



wherein each of the radicals X, which are identical or different, represents a radical -Me, -H and/or -M<sup>+</sup>, wherein M<sup>+</sup> is a cation.

79. (Previously Presented) A dendritic polymer according to claim 60, wherein the generation chains are identical.

80. (Cancelled)

81. (Cancelled)

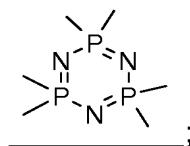
82. (Previously Presented) A dendritic polymer according to claim 60, wherein J represents an oxygen atom.

83. (Previously Presented) A dendritic polymer according to claim 60, wherein K represents a phenyl ring optionally substituted by a halogen atom or by an  $-\text{NO}_2$ ,  $-\text{NRR}'$ ,  $-\text{CN}$ ,  $-\text{CF}_3$ ,  $-\text{OH}$ , an  $-\text{alkyl}$  radical, an  $-\text{aryl}$  radical, or an  $-\text{aralkyl}$  radical; where R and R', which may be identical or different, each independently represent a hydrogen atom, an alkyl radical, an aryl radical or an aralkyl radical.

84. (Previously Presented) A dendritic polymer according to claim 60, wherein K represents an unsubstituted phenyl ring.

85. (Currently Amended) A dendritic polymer of generation n comprising:

(a) a central core  $\S$  of valence  $m$  having = the formula:



(b) optionally, generation chains branching around the core;

(c) an intermediate chain at the end of each bond around the core or at the end of each generation chain, where appropriate; and

(d) a terminal group at the end of each intermediate chain,

wherein  $m$  represents an integer from 3 to 8;  $n$  represents an integer from 0 to 12, the intermediate chains, which are identical or different, are represented by formula

-J-K-L- (C2) or -L"- (C2')

wherein

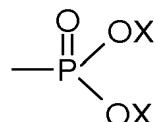
J represents an oxygen atom, a sulfur atom or a radical -NR-;

K represents an aryl, heteroaryl or alkyl radical, each of which is optionally substituted by a halogen atom or by -NO<sub>2</sub>, -NRR', -CN, -CF<sub>3</sub>, -OH, an -alkyl radical, an -aryl radical, or an -aralkyl radical;

L represents an -alkyl-, -alkenyl- or -alkynyl- radical, each of which is optionally substituted by one or more substituents selected from -OH, -NRR', and -Oalkyl;

and

L" represents an -alkyl- chain having from 1 to 6 chain members, optionally substituted by one or more substituents selected from -OH, -NRR', and -Oalkyl, where R and R', which may be identical or different, each independently represent a hydrogen atom, an alkyl radical, an aryl radical or an -aralkyl radical; and further wherein the terminal group consists of the group of formula:



wherein each of the radicals X, which are identical or different, represents a radical -Me, -H and/or -M<sup>+</sup>, wherein M<sup>+</sup> represents a cation.

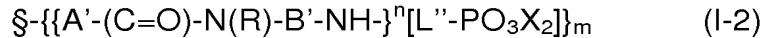
86. (Previously Presented) A dendritic polymer according to claim 85, wherein L represents an alkenyl radical or an alkyl radical, optionally substituted by a radical -OH.

87. (Previously Presented) A dendritic polymer according to claim 86, wherein L represents an alkyl radical optionally substituted by -OH.

88. (Cancelled)

89. (Cancelled)

90. (Currently Amended) A dendritic polymer represented by the formula (I-2):



in which:

$\S$  represent a central core of valence m,

$\{(A'-(C=O)-N(R)-B'-NH-)^n$  represents generation chains branching around the core,

$L''$  represents intermediate chains, and

$-PO_3X_2$  represents a terminal group at the end of each intermediate chain, wherein

$A'$  and  $B'$ , each independently of the other, represent an alkyl radical, an alkenyl radical or an alkynyl radical, wherein said radicals may have one or more substituents selected from the group consisting of -alkyl radicals, halogen atoms,  $-NO_2$ ,  $-NRR'$ ,  $-CN$ ,  $-CF_3$ ,  $-OH$ , -Oalkyl radicals, -aryl radicals, and -aralkyl radicals;

$L''$  represents an -alkyl- chain having from 1 to 6 chain members, optionally substituted by one or more substituents selected from  $-OH$ ,  $-NRR'$ , and -Oalkyl;

$N$  represents a nitrogen atom;

$P$  represents a phosphorus atom;

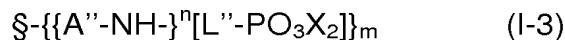
$R$  and  $R'$ , which may be identical or different, each independently represent a hydrogen atom, an alkyl radical, an aryl radical or an aralkyl radical.

~~$X$ , which are identical or different, represents a radical  $-Me$ ,  $-H$  and/or  $-M^+$ , wherein  $M^+$  is a cation = methyl,~~

$m$  represents an integer from 3 to 8, and

$n$  represents an integer from 0 to 12.

91. (Currently Amended) A dendritic polymer represented by the formula (I-3):



in which:

$\S$  represent a central core of valence m,

$\{A''-NH\}$  represents generation chains branching around the core,

$L''$  represents intermediate chains, and

$-PO_3X_2$  represents a terminal group at the end of each intermediate chain, wherein

A'' represents an alkyl radical, an alkenyl radical [[ro]] or an alkynyl radical, optionally substituted with one or more substituents selected from the group consisting of -alkyl, halogen atoms, -NO<sub>2</sub>, -NRR', -CN, -CF<sub>3</sub>, -OH, -OAlkyl, -Aryl, and -Aralkyl;

L'' represents an -alkyl- chain having from 1 to 6 chain members, optionally substituted by one or more substituents selected from -OH, -NRR', and -Oalkyl;

N represents a nitrogen atom;

P represents a phosphorus atom;

R and R', which may be identical or different, each independently represent a hydrogen atom, an -alkyl radical, an -aryl radical, or an -aralkyl radical;

~~X, which are identical or different, represents a radical -Me, -H and/or -M<sup>+</sup>, wherein M<sup>+</sup> is a cation = methyl,~~

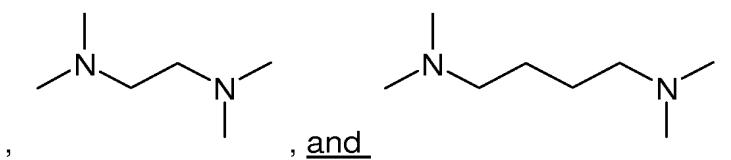
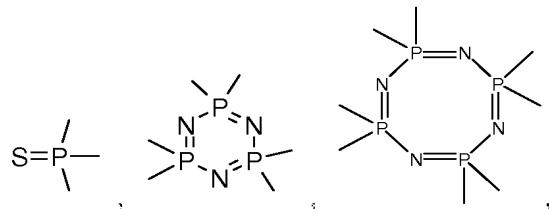
m represents an integer from 3 to 8, and

n represents an integer from 0 to 12.

92-118. (Cancelled)

119. (Currently Amended) A dendritic polymer according to claim [[77]] 141, wherein the central core contains at least one phosphorus atom.

120. (Currently Amended) A dendritic polymer according to claim [[77]] 141, wherein the central core is selected from the following groups:



121. (Currently Amended) A dendritic polymer according to claim [[77]] 141, wherein the central core has the formula:



122. (Previously Presented) A dendritic polymer according to claim 77, having a DAB-AM, PAMAM, or PMMH structure.

123. (Previously Presented) A dendritic polymer according to claim 77, wherein the generation chains are identical.

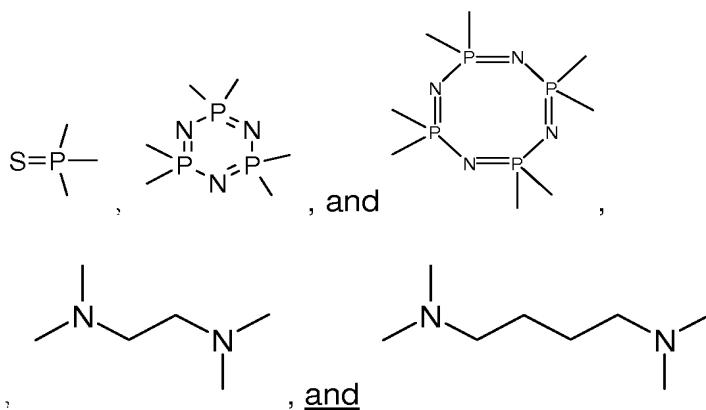
124. (Previously Presented) A dendritic polymer according to claim 77, wherein J represents an oxygen atom.

125. (Previously Presented) A dendritic polymer according to claim 77, wherein K represents a phenyl ring optionally substituted by a halogen atom or by an -NO<sub>2</sub>, -NRR', -CN, -CF<sub>3</sub>, -OH, an -alkyl radical, an -aryl radical, or an -aralkyl radical; where R and R', which may be identical or different, each independently represent a hydrogen atom, an alkyl radical, an aryl radical or an aralkyl radical.

126. (Previously Presented) A dendritic polymer according to claim 77, wherein K represents an unsubstituted phenyl ring.

127. (Currently Amended) A dendritic polymer according to claim [[85]] 135, wherein the central core contains at least one phosphorus atom.

128. (Currently Amended) A dendritic polymer according to claim [[85]] 135, wherein the central core is selected from the following groups:



129. (Currently Amended) A dendritic polymer according to claim [[85]] 135, wherein the central core has the formula:



130. (Previously Presented) A dendritic polymer according to claim 85, having a DAB-AM, PAMAM, or PMMH structure.

131. (Previously Presented) A dendritic polymer according to claim 85, wherein M is selected from sodium and potassium atoms.

132. (Previously Presented) A dendritic polymer according to claim 85, wherein n is from 0 to 3.

133. (Cancelled)

134. (Previously Presented) A dendritic polymer according to claim 85, wherein the generation chains are selected from linear and branched hydrocarbon chains having from 1 to 12 chain members and optionally having one or more double or triple bonds, each of said chain members optionally being selected from a heteroatom, an Aryl radical, a Heteroaryl radical, >C=O, and >C=NR, each chain

member being optionally substituted by one or more substituents selected from -

Alkyl, -Hal, -NO<sub>2</sub>, -NRR', -CN, -CF<sub>3</sub>, -OH, -OAlkyl, -Aryl, and -Aralkyl,

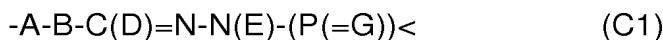
wherein

R and R', which are identical or different, each independently of the other represents a hydrogen atom, an alkyl radical, an aryl radical or an -aralkyl radical.

135. (Currently Amended) ~~A dendritic polymer according to claim 85, A~~  
dendritic polymer comprising:

- (a) a central core § of valence m;
- (b) generation chains branching around the core;
- (c) an intermediate chain at the end of each bond around the core or at the end of each generation chain, where appropriate; and
- (d) a terminal group at the end of each intermediate chain,

wherein m represents an integer from 3 to 8; n represents an integer from 0 to 12,  
wherein the generation chains, which are identical or different, are represented by  
the formula:



wherein:

A represents an oxygen, sulfur or phosphorus atom or a radical -NR-;

B represents a radical -Aryl-, -Heteroaryl-, or -Alkyl-, each of which is optionally substituted by a Halogen atom or by a radical -NO<sub>2</sub>, -NRR', -CN, -CF<sub>3</sub>, -OH, -Alkyl, -Aryl, or -Aralkyl;

C represents a carbon atom,

D and E, which are identical or different, each independently of the other represents a hydrogen atom, a radical -Alkyl, -OAlkyl, -Aryl, or -Aralkyl, each of which is optionally substituted by a Halogen atom or by a radical -NO<sub>2</sub>, -NRR', -CN, -CF<sub>3</sub>, -OH, -Alkyl, -Aryl, or -Aralkyl;

G represents a sulfur, oxygen, selenium or tellurium atom or a radical =NR;

R and R', which are identical or different, each independently of the other represents a hydrogen atom or a radical -Alkyl, -Aryl, or -Aralkyl; and

< represents the two bonds at the end of each generation chain,

the intermediate chains, which are identical or different, are represented by formula

-J-K-L- (C2)      or      -L"- (C2')

wherein

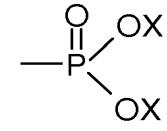
J represents an oxygen atom, a sulfur atom or a radical -NR-;

K represents an aryl, heteroaryl or alkyl radical, each of which is optionally substituted by a halogen atom or by -NO<sub>2</sub>, -NRR', -CN, -CF<sub>3</sub>, -OH, an -alkyl radical, an -aryl radical, or an -aralkyl radical;

L represents an -alkyl-, -alkenyl- or -alkynyl- radical, each of which is optionally substituted by one or more substituents selected from -OH, -NRR', and -Oalkyl;

and

L" represents an -alkyl- chain having from 1 to 6 chain members, optionally substituted by one or more substituents selected from -OH, -NRR', and -Oalkyl, where R and R', which may be identical or different, each independently represent a hydrogen atom, an alkyl radical, an aryl radical or an -aralkyl radical; and further wherein the terminal group consists of the group of formula:



wherein each of the radicals X, which are identical or different, represents a radical -Me, -H and/or -M<sup>+</sup>, wherein M<sup>+</sup> represents a cation.

136. (Previously Presented) A dendritic polymer according to claim 85, wherein the generation chains are represented by the formula:

-A"-N< (C1")

wherein

A" represents an alkyl radical, an alkenyl radical or a alkynyl radical, each of which is optionally substituted by one or more substituents selected from -Alkyl, -Hal, -NO<sub>2</sub>, -NRR', -CN, -CF<sub>3</sub>, -OH, -OAlkyl, -Aryl, and -Aralkyl; and wherein R and R', which are identical or different, each independently of the other represents a hydrogen atom or an -alkyl radical, an -aryl radical, or an -aralkyl radical.

137. (Previously Presented) A dendritic polymer according to claim 85, wherein the generation chains are identical.

138. (Previously Presented) A dendritic polymer according to claim 85, wherein J represents an oxygen atom.

139. (Currently Amended) A dendritic polymer according to claim 85, wherein K represents a phenyl ring optionally substituted by a halogen atom or by an  $-\text{NO}_2$ ,  $-\text{NRR}'$ ,  $-\text{CN}$ ,  $-\text{CF}_3$ ,  $-\text{OH}$ , an -alkyl radical, an aryl radical aryl radical, or an -aralkyl radical; where R and R', which may be identical or different, each independently represent a hydrogen atom, an alkyl radical, an aryl radical or an aralkyl radical.

140. (Previously Presented) A dendritic polymer according to claim 85, wherein K represents an unsubstituted phenyl ring.

141. (Currently Amended) The dendrimer of claim 77, A dendritic polymer of generation n comprising:

- (a) a central core § of valence m;
- (b) generation chains branching around the core;
- (c) an intermediate chain at the end of each bond around the core or at the end of each generation chain, where appropriate; and
- (d) a terminal group at the end of each intermediate chain,

wherein m represents an integer from 3 to 8; n represents an integer from 0 to 12,

the generation chains are represented by the formula:



wherein

A' and B', each independently of the other, represent an alkyl radical, an alkenyl radical or an alkynyl radical, each of which is optionally substituted by one or more substituents selected from -alkyl, halogen atoms,  $-\text{NO}_2$ ,  $-\text{NRR}'$ ,  $-\text{CN}$ ,  $-\text{CF}_3$ ,  $-\text{OH}$ ,  $-\text{OAlkyl}$ , -aryl, and -aralkyl; and

R and R', which may be identical or different, each independently represent a hydrogen atom, an alkyl radical, an aryl radical or an aralkyl radical

the intermediate chains, which are identical or different, are represented by formula

-J-K-L- (C2) or -L"- (C2')

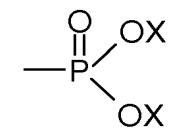
wherein

J represents an oxygen atom, a sulfur atom or a radical -NR-;

K represents an aryl, heteroaryl or alkyl radical, each of which is optionally substituted by a halogen atom or by -NO<sub>2</sub>, -NRR', -CN, -CF<sub>3</sub>, -OH, an -alkyl radical, an -aryl radical, or an -aralkyl radical;

L represents a hydrocarbon chain having from 1 to 6 chain members and optionally having one or more heteroatoms and/or optionally having one or more double or triple bonds, each of said chain members being optionally substituted by one or more substituents selected from -OH, -NRR', and -Oalkyl; and R and R', which are identical or different, each independently of the other represents a hydrogen atom or an -alkyl, -aryl, or -aralkyl radical; and

L" represents an -alkyl- chain having from 1 to 6 chain members, optionally substituted by one or more substituents selected from -OH, -NRR', and -Oalkyl, where R and R', which may be identical or different, each independently represent a hydrogen atom, an alkyl radical, an aryl radical or an -aralkyl radical; and further wherein the terminal group consists of the group of formula:



where X = methyl.

142. (Currently Amended) The dendrimer of claim 85 A dendritic polymer comprising:

- (a) a central core § of valence m;
- (b) optionally, generation chains branching around the core;
- (c) an intermediate chain at the end of each bond around the core or at the end of each generation chain, where appropriate; and
- (d) a terminal group at the end of each intermediate chain,

wherein m represents an integer from 3 to 8; n represents an integer from 0 to 12, the intermediate chains, which are identical or different, are represented by formula

-J-K-L- (C2)      or      -L"- (C2')

wherein

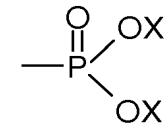
J represents an oxygen atom, a sulfur atom or a radical -NR-;

K represents an aryl, heteroaryl or alkyl radical, each of which is optionally substituted by a halogen atom or by -NO<sub>2</sub>, -NRR', -CN, -CF<sub>3</sub>, -OH, an -alkyl radical, an -aryl radical, or an -aralkyl radical;

L represents an -alkyl-, -alkenyl- or -alkynyl- radical, each of which is optionally substituted by one or more substituents selected from -OH, -NRR', and -Oalkyl;

and

L" represents an -alkyl- chain having from 1 to 6 chain members, optionally substituted by one or more substituents selected from -OH, -NRR', and -Oalkyl, where R and R', which may be identical or different, each independently represent a hydrogen atom, an alkyl radical, an aryl radical or an -aralkyl radical; and further wherein the terminal group consists of the group of formula:



wherein X = methyl.

143-145. (Cancelled)